

TABLE OF CONTENTS

January - December 2000 Volume 109

January

Message from the President	CHARLES JABLONSKI	1
34th Advanced Motion Imaging Conference, San Francisco, CA, February 3-5, 2000		13
Keynote Address—Industry Luncheon, 141st Technical Conference	JOERG D. AGIN	20
Remote Non-Linear Video Editing	ROBIN S. ROWE	23
Testing Applications in Uncompressed HDTV Signals	JAMES R. WASCHURA	26
"Managing" the Moving Image—From an Engineering Point of View—Part I ..	ROLAND J. ZAVADA	40

February

Message From SMPTE Financial Vice-President	GAVIN SCHUTZ	89
SMPTE Directors for the Year 2000		93
142nd SMPTE Technical Conference and Exhibition, Pasadena, CA, October 18-21, 2000		97
Fellows Luncheon Address	CHARLES A. STEINBERG	99
Aspects of Digital HDTV Coding	GORDON M. DRURY AND ALOIS M. BOCK	102
Interlace and Progressive Scan Comparisons Based on Visual Perception	WILLIAM E. GLENN	114
Automatic Luminance Tuning for High Intensity Xenon Lamp Consoles in Motion Picture Film Projection	MARK C. REGEL	118
"Managing" the Moving Image—From an Engineering Point of View—Part II ..	ROLAND J. ZAVADA	122

March

Message from SMPTE Engineering Vice-President	WILLIAM C. MILLER	175
142nd SMPTE Technical Conference and Exhibition, Pasadena, CA, October 18-21, 2000		177
Perceptual Effects of Noise in Digital Video Compression	CHARLES FENIMORE, JOHN LIBERT, AND STEPHEN WOLF	178
A SMPTE 292M/OC-48c Video Network Access Unit (VNAU)	PHILIP S. CROSBY AND SCOTT W. LOWREY	188
A Comparison of Subjective Picture Quality Evaluation Methods for Different Television Systems	NAGATO NARITA AND YUKIO SUGIURA	193
Building Cross-Platform Media Workgroup Solutions	DAVID E. ACKER	200
A Tutorial on SDTI-CP	JIM WILKINSON	205

April

Message from the Sections Vice-President	RENÉ VILLENEUVE	264
142nd SMPTE Technical Conference and Exhibition, Pasadena, CA, October 18-21, 2000		267
Special Report—34th SMPTE Advanced Motion Imaging Conference, February 3-5, 2000		271
Recent Advances in the Transfer and Manipulation of Film Images in the Data and HDTV Domains	DAVID J. BANCROFT	273
Adaptive Encoders: The New Generation of MPEG-2 Encoders	P. GUILLOTTEL, D. THOREAU, P. RUELOU, P. BORDES, B. CHUPEAU, AND C. CHEVANCE	287
Technical Paper—The Integrated Newsroom	NEIL DORMAND	295
Utilization Issues for Large Consumer Video Displays	JEFFREY B. SAMPEL	298
Digital Audio Delivery to the Consumer	STEVE LYMAN AND CRAIG TODD	301
A Study on Measuring the Directional Parameters in Room Acoustics	H. OKUBO, M. OTANI, R. IKEZAWA, AND S. KOMIYAMA	309
Special Report—50th Anniversary of the ITU-R Study Group 11, Geneva, December 16, 1999	MARK I. KRIVOCHEEV	313

TABLE OF CONTENTS

January - December 2000 Volume 109

January

Message from the President	CHARLES JABLONSKI	1
34th Advanced Motion Imaging Conference, San Francisco, CA, February 3-5, 2000		13
Keynote Address—Industry Luncheon, 141st Technical Conference	JOERG D. AGIN	20
Remote Non-Linear Video Editing	ROBIN S. ROWE	23
Testing Applications in Uncompressed HDTV Signals	JAMES R. WASCHURA	26
"Managing" the Moving Image—From an Engineering Point of View—Part I ..	ROLAND J. ZAVADA	40

February

Message From SMPTE Financial Vice-President	GAVIN SCHUTZ	89
SMPTE Directors for the Year 2000		93
142nd SMPTE Technical Conference and Exhibition, Pasadena, CA, October 18-21, 2000		97
Fellows Luncheon Address	CHARLES A. STEINBERG	99
Aspects of Digital HDTV Coding	GORDON M. DRURY AND ALOIS M. BOCK	102
Interlace and Progressive Scan Comparisons Based on Visual Perception	WILLIAM E. GLENN	114
Automatic Luminance Tuning for High Intensity Xenon Lamp Consoles in Motion Picture Film Projection	MARK C. REGEL	118
"Managing" the Moving Image—From an Engineering Point of View—Part II ..	ROLAND J. ZAVADA	122

March

Message from SMPTE Engineering Vice-President	WILLIAM C. MILLER	175
142nd SMPTE Technical Conference and Exhibition, Pasadena, CA, October 18-21, 2000		177
Perceptual Effects of Noise in Digital Video Compression	CHARLES FENIMORE, JOHN LIBERT, AND STEPHEN WOLF	178
A SMPTE 292M/OC-48c Video Network Access Unit (VNAU)	PHILIP S. CROSBY AND SCOTT W. LOWREY	188
A Comparison of Subjective Picture Quality Evaluation Methods for Different Television Systems	NAGATO NARITA AND YUKIO SUGIURA	193
Building Cross-Platform Media Workgroup Solutions	DAVID E. ACKER	200
A Tutorial on SDTI-CP	JIM WILKINSON	205

April

Message from the Sections Vice-President	RENÉ VILLENEUVE	264
142nd SMPTE Technical Conference and Exhibition, Pasadena, CA, October 18-21, 2000		267
Special Report—34th SMPTE Advanced Motion Imaging Conference, February 3-5, 2000		271
Recent Advances in the Transfer and Manipulation of Film Images in the Data and HDTV Domains	DAVID J. BANCROFT	273
Adaptive Encoders: The New Generation of MPEG-2 Encoders	P. GUILLOTTEL, D. THOREAU, P. RUELOU, P. BORDES, B. CHUPEAU, AND C. CHEVANCE	287
Technical Paper—The Integrated Newsroom	NEIL DORMAND	295
Utilization Issues for Large Consumer Video Displays	JEFFREY B. SAMPSELL	298
Digital Audio Delivery to the Consumer	STEVE LYMAN AND CRAIG TODD	301
A Study on Measuring the Directional Parameters in Room Acoustics	H. OKUBO, M. OTANI, R. IKEZAWA, AND S. KOMIYAMA	309
Special Report—50th Anniversary of the ITU-R Study Group 11, Geneva, December 16, 1999	MARK I. KRIVOCHEEV	313

May

Message from the Executive Vice-President	JOHN MASON	352
142nd Technical Conference and Exhibition, Pasadena, CA, October 18-21, 2000		355
System Overview: Advanced System Control Architecture S22.02, Revision 2.0, Prepared by S22.02 Advanced System Control Architectures Working Group		
Preface	BRAD GILMER, WILLIAM C. MILLER, AND S. MERRILL WEISS	363
Table of Contents		366
Report		367

June

Message from the Secretary/Treasurer	EDWARD HOBSON	461
142nd Technical Conference and Exhibition, Pasadena, CA, October 18-21, 2000		463
Improving MPEG Performance Using Frame Partitioning	KATERINA PRONINA, RABAB K. WARD, AND PANOS NASIOPOULOS	469
Quality in HDTV Post	MARK HORTON AND BOB PANK	476
Film Scanning for all Disciplines: Video and Film Resolutions Merge	P. R. SWINSON	480
NASA's Myriad Uses of Digital Video	RODNEY GRUBBS, WALT LINDBLOM, AND SANDY GEORGE	484
A Universal Mastering Format for Post-Production Finishing: 1080p/24	PATRICK BYRNE	490
The Restoration Business, Part 4: In Black and White—Reel One	GRANT LOBBAN	494

July

Message from the Past-President	DAVID L. GEORGE	543
142nd Technical Conference and Exhibition, Pasadena, CA, October 18-21, 2000		545
35th Advanced Motion Imaging Conference, Washington, DC, February 8-10, 2001		551
IBC2000, Amsterdam, The Netherlands, September 8-12, 2000		553
HDTV and Electronic Cinema—Making the Link	B. H. CHRISTENSSON, K. N. JENKINS, AND P. A. WEISS	554
MPEG-7: Relevance and Applications to Broadcasting	E. HARTLEY AND A. P. PARKES	559
An Ultrahigh-Sensitivity Color HDTV Camera for Shooting Heavenly Bodies	K. MAJIMA, S. SUNASAKI, J. YAMAZAKI, AND T. ANDO	564
An Alternative Architecture for High-Performance Display	R. W. CORRIGAN, B. R. LANG, D. A. LEHOTY, AND P. A. ALIOSHIN	568
The Restoration Business Part 4: In Black and White—Reel Two	GRANT LOBBAN	573
The SMPTE Data Coding Protocol and Dictionaries	JIM WILKINSON	579

Part II

SMPTE 2000 Worldwide Directory for Members		1-238
--	--	-------

August

Message from the President	CHARLES JABLONSKI	619
142nd Technical Conference and Exhibition, Pasadena, CA, October 18-21, 2000		620
35th Advanced Motion Imaging Conference, Washington, DC, February 8-10, 2001		625
IBC2000, Amsterdam, The Netherlands, September 8-12, 2000		627
Standards and New Technology Strategies to Preserve Content on Magnetic and Disc Media	ED H. ZWANEVELD	682
A Comparison of Alternative High-Definition Display Technologies to CRT	PETER F. VAN KESSEL, TERRY A. BARTLETT, SCOTT DEWALD, AND GREGORY S. PETTITT	636
Cinema Projection Distortion	RONALD A. PETROZZO AND STUART W. SINGER	648
Implementation of SMPTE Metadata for Advanced Authoring Application	OLIVER MORGAN AND TIM BINGHAM	652
Video Testing in a DTV World	DAVID K. FIBUSH	661

September

Message from the Conference Vice-President	THOMAS M. JORDAN	679
Message from the Executive Director	FREDERICK C. MOTTS	682
142nd Technical Conference and Exhibition, Pasadena, CA, October 18-21, 2000		687
35th Advanced Motion Imaging Conference, Washington, DC, February 8-10, 2001		700
Loop Bandwidth Optimization and Jitter Measurement Techniques for Serial HDTV Systems	ATUL KRISHNA GUPTA, AAPOL BIMAN, AND DINO TOFFOLON	703
Technical Aspects of the New World of Multiformat DTV Embodying Progressive, Interlaced, and Segmented Frame Video Format	LAURENCE J. THORPE	713
Navigating the Rapids of DTV Standards Conversion	PETER WILSON	720
Approaching the Shannon Limit in Digital Broadcasting ..	SIMON WADDINGTON AND KEITH PICKAVANCE	729

October

An Appeal from the Editorial Vice-President	ROBERT B. KISOR	753
142nd Technical Conference and Exhibition, Pasadena, CA, October 18-21, 2000		755
35th Advanced Motion Imaging Conference, Washington, DC, February 8-10, 2001		787
Video Preprocessing in MPEG-2 Compression Systems	GORDON M. DRURY	789
Tools and Techniques for Globally Unique Content Identification	JAMES H. WILKINSON AND MICHAEL E. COX	795
Revelations on the Coming of Digital Cinema	HUGH R. HEINSOHN	800
Editing MPEG Streams	MARK D. CONOVER	805

November

Message from the Financial Vice-President	GAVIN SCHUTZ	848
Message from the Executive Director	FREDERICK C. MOTTS	849
35th Advanced Motion Imaging Conference, Washington, DC, February 8-10, 2001		854
SMPTE Election Results		856
A Picture Format Converter Using Motion Compensated De-interlacing	KENJI SUGIYAMA AND NEIL NEUBERT	859
Digital VSB Fundamentals and Applications	WAYNE E. BRETL	866
Video Quality of Service Monitoring for Digital Television Systems	MICHAEL H. WAIDSON	870
Making MPEG-2 Video Display Agnostic	JEFF McVEIGH, PATRICIA GRAY, AND MARK BUXTON	876
Audio-Video Synchronization Across DTV Transport Interfaces: The Impossible Dream	RANDALL HOFFNER	861
SMPTE 1999 Financial Reports		904

December

Message from the President	CHARLES JABLONSKI	920
35th Advanced Motion Imaging Conference, Washington, DC, February 8-10, 2001		929
Special Report on the 142nd SMPTE Technical Conference and Exhibition, October 18-21, 2000 ...		933
Keynote Speech, Industry Luncheon	JACK VALENTI	942
Fellows Luncheon Address	DAVID L. GEORGE	944
An All-Digital Pipeline: <i>Toy Story 2</i> from Disk to Screen	BILL KINDER	946
Comparative Studies of Data Broadcasting	HENRY SARIOWAN	949
Video Performance Measurements in DTV Transmission Systems	EDWARD REUSS	953
Data Reduced Production Technology Using the DVCPRO and/or MPEG-2 4:2:2 Format	ROLF HEDTKE	958

